

IN THE CLAIMS

Please amend the claims as follows. Please cancel claim 9 - 12.

For the Examiner's convenience, a list of all claims is included below.

1. (Currently Amended) An apparatus for electroless spray deposition of a metal layer on a substrate, comprising:

a processing chamber to hold at least one substrate on which the metal layer is to be deposited, the processing chamber including at least one section movable between an open position to allow the at least one substrate to be introduced into and removed from the processing chamber and a closed position to seal the processing chamber to allow for pressurization of the processing chamber;

an inlet to provide pressurizing gas to the processing chamber;

an exhaust line to exhaust pressurizing gas from the processing chamber;

~~a pressure regulator to regulate pressure within the processing chamber;~~

a source of electroless plating solution;

a sprayer provided within the processing chamber and connected to the source of electroless plating solution to spray the electroless plating solution onto the at least one substrate;
and

a drain provided in the processing chamber to drain the electroless plating solution from the processing chamber; and

a pressure regulator within the processing chamber to regulate pressure within the processing chamber, the pressure regulator including a shutter provided in the exhaust line and a valve provided in the drain.

2. (Original) The apparatus according to claim 1, wherein the processing chamber includes a chamber body and a stationary cover and wherein the chamber body is movable between the open position and the closed position.
3. (Original) The apparatus according to claim 2, wherein the chamber body has a cylindrical shape and, in the closed position, the chamber body is sealed to the stationary cover by an o-ring.
4. (Original) The apparatus according to claim 1, wherein the processing chamber includes a chamber body and a cover and wherein the cover is movable between the open position and the closed position.
5. (Original) The apparatus according to claim 4, wherein the chamber body has a cylindrical shape and, in the closed position, the cover is sealed to the chamber body by an o-ring.
6. (Original) The apparatus according to claim 1, wherein the sprayer is a spray bar.
7. (Original) The apparatus according to claim 1, further comprising a first reservoir to contain a metal stock solution comprising a solution of the metal to be deposited; a second reservoir to contain a reducing solution; the metal stock solution and reducing solution, when mixed in predetermined proportions forming the electroless plating solution; a mixing chamber for mixing the metal stock solution and the reducing solution to thereby provide the electroless plating solution; first and second lines including respective first and second controllable valves to provide predetermined quantities of the solutions in the respective reservoirs to the mixing chamber at selected times; and a supply line connecting the mixing chamber and the sprayer so as to follow for delivery of said electroless plating solution to the sprayer.

8. (Original) The apparatus according to claim 7, further comprising a heater to heat solution in at least one of the first reservoir; the second reservoir, the mixing chamber, the first and second lines and the supply line.

9 - 12 (Cancelled)

13. (Original) The apparatus according to claim 7, further comprising at least one additional reservoir to contain at least one fluid selected from the group consisting of a pre-cleaning fluid, a pre-wetting fluid, ultra-pure water, deionized water, and a post-cleaning fluid.

14. (Currently amended) An apparatus for electroless spray deposition of a metal layer on a substrate, comprising:

a processing chamber to hold at least one substrate on which the metal layer is to be deposited, the processing chamber including at least one section movable between an open position to allow the at least one substrate to be introduced into and removed from the processing chamber and a closed position to seal the processing chamber to allow for pressurization of the processing chamber;

means for pressurizing the processing chamber;

means for regulating pressure within the processing chamber, the means for regulating pressure including a shutter provided in an exhaust line of the chamber and a valve provided in a drain of the chamber; and

means for spraying an electroless plating solution onto the at least one substrate.

15. (Original) The apparatus according to claim 14, further comprising means for heating the electroless plating solution.

16-27 (Cancelled)

28. (Previously presented) The apparatus according to claim 1, further comprising a source of inert gas, wherein the pressurizing gas comprises the inert gas and the inlet to provide pressurizing gas is connected to the source of inert gas.

29. (Previously presented) The apparatus according to claim 14, wherein the means for pressurizing the processing chamber includes means for introducing inert gas into the processing chamber.

30. (New) An apparatus for electroless spray deposition of a metal layer on a substrate, comprising:

a processing chamber to hold at least one substrate on which the metal layer is to be deposited, the processing chamber including at least one section movable between an open position to allow the at least one substrate to be introduced into and removed from the processing chamber and a closed position to seal the processing chamber to allow for pressurization of the processing chamber;

an inlet to provide pressurizing gas to the processing chamber;

an exhaust line to exhaust pressurizing gas from the processing chamber;

a pressure regulator to regulate pressure within the processing chamber;

a source of electroless plating solution;

a sprayer provided within the processing chamber and connected to the source of electroless plating solution to spray the electroless plating solution onto the at least one substrate;

a drain provided in the processing chamber to drain the electroless plating solution from the processing chamber; and

a rotatable chuck provided within the processing chamber, the rotatable chuck having a passage formed therein to allow fluid to flow to the back of a substrate positioned on the chuck.